CASE NO. 08-0863 MHP

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Page 1 of 30

Case 3:08-cv-00863-MHP Document 51

## TABLE OF CONTENTS

2				<b>Page</b>	
3	NOTI	CE OF	MOTION AND MOTION	1	
4	MEMORANDUM OF POINTS AND AUTHORITIES1				
5	I.	Introd	luction	1	
6	II.	Factu	al Background	1	
7		A.	The Accused Wells Fargo Services	1	
8		B.	The Nuance Speech Recognition System	2	
9		C.	Phoenix's Asserted Patents and Infringement Contentions	4	
10			1. '846 Patent	4	
11			2. '640 Patent	5	
12			3. '977 Patent	7	
13			4. '854 Patent	8	
14	III.	Argui	ment	9	
15		A.	A defendant cannot be prevented from practicing what was within the prior art	9	
<ul><li>16</li><li>17</li></ul>		B.	The elements of the Wells Fargo system that Phoenix accuses of infringement existed in the prior art	10	
18			1. '846 Patent	10	
19			2. '640 Patent	13	
20			3. '977 Patent	18	
21			4. '854 Patent	21	
22	IV.	Conc	lusion	25	
23					
24					
25					
26					
27					
28					
			i		
	11				

# TABLE OF AUTHORITIES Page(s) FEDERAL CASES Atlas Powder Co. v. Ireco, Inc., Evans Cooling Sys., Inc. v. GMC, PowerOasis, Inc. v. T-Mobile USA, Inc., Scott Paper Co. v. Marcalus Manufacturing Co., Vanmoor v. Wal-Mart Stores, Inc.,

### NOTICE OF MOTION AND MOTION 1 2 To PLAINTIFF PHOENIX SOLUTIONS, INC. and its ATTORNEYS OF RECORD: 3 PLEASE TAKE NOTICE that, on November 10, 2008 at 2:00 p.m., in Courtroom 15 of the 4 above-entitled Court located at 450 Golden Gate Avenue, San Francisco, California, Defendant 5 Wells Fargo Bank, N.A., will and does hereby move the Court for an Order granting summary 6 judgment of invalidity as to claims 11, 17, 20 and 21 of U.S. Patent No. 6,633,846 ("846") 7 patent"), claims 1, 3, 4, and 7 of U.S. Patent No. 6,665,640 ("'640 patent"), claims 1, 6, 7 and 10 8 of U.S. Patent No. 7,050,977 ("'977 patent") and claims 1, 7-9, 12, 15, 19-23, and 27-29 of U.S. 9 Patent No. 7,277,854 ("854 patent"). A proposed Order is filed herewith. 10 Wells Fargo's motion is based on the following Memorandum of Points and Authorities 11 and the Declarations of Doug Sharp ("Sharp Decl.") and Ryan M. Kent ("Kent Decl.") filed 12 herewith. Wells Fargo's motion is further supported by the evidence cited in the Memorandum 13 below, the case record, and such oral argument at the time of the hearing or other matters this 14 Court deems appropriate. 15 Respectfully submitted, 16 KEKER & VAN NEST, LLP Attorneys for Defendant Wells Fargo Bank, N.A. 17 18 Dated: September 8, 2008 19

By: /s/ Daralyn J. Durie
Daralyn J. Durie
Attorneys for Defendant

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### MEMORANDUM OF POINTS AND AUTHORITIES

#### I. Introduction

Phoenix has accused Wells Fargo of infringing four patents with identical specifications that are drawn (at a very high level) to speech recognition and understanding systems. The key elements of the accused systems are found in speech-recognition software called the Nuance Speech Recognition System ("NSRS").

The parties disagree about whether all the claimed elements are present in the accused NSRS. But even if one assumes Phoenix's infringement contentions to be correct, Phoenix cannot win, because Phoenix accuses Wells Fargo of infringement merely for practicing what was within the prior art. Nuance sold the NSRS more than a year prior to the filing date of the patents in suit. The prior art NSRS is the same, in all relevant respects, to the NSRS accused of infringement. Thus – according to Phoenix's own infringement contentions – if the NSRS used by Wells Fargo infringes, the asserted claims encompass, and are anticipated by, the prior art NSRS. No claim construction can solve Phoenix's catch-22. Rather than waste judicial resources on such a fruitless exercise, the Court should act now, and conserve judicial resources by granting summary judgment of anticipation for Wells Fargo.

#### II. Factual Background

#### A. The Accused Wells Fargo Services

Phoenix accuses systems that can be accessed by calling the phone numbers (800) 642-4720, (800) 368-7550, and (800) 872-3377 (referred to herein as the "accused systems"). If a Wells Fargo customer wants to obtain information about her account or make a transaction — like transferring funds from one account to another — she can call one of these phone numbers. The call is answered by a computerized system that can provide information, or take certain actions (like transferring funds), in response to the customer's verbal requests. Declaration of

<sup>&</sup>lt;sup>1</sup> For the purposes of this motion, Wells Fargo takes the allegations made in Phoenix's infringement contentions to be true except where directly contradicted by the cited documentation. Wells Fargo reserves the right to challenge these factual allegations at any other point in this litigation as well as the right to contend that the facts alleged do not prove infringement under a proper construction of the claims.

Ryan M. Kent ("Kent Decl."), Ex. 5, p. 1. Such systems are called speech-enabled interactive voice response ("IVR") systems.

Wells Fargo did not develop the technology underlying these systems. Instead, Wells Fargo uses software and hardware designed and sold by third parties. As an example, Wells Fargo uses an IVR system sold by Intervoice, Inc. to provide responses to the caller's queries. In non-speech enabled IVR systems, those queries typically are made by pressing numbers on a touch-tone phone (such as "for your account balance, press 1"). Where Wells Fargo uses an IVR system that is speech-enabled, that functionality is implemented using software developed by Nuance. *See, e.g., id.*, p. 1 and 3 (citing Intervoice's Setting Up Nuance Guide at Bates No. PHO004156-4159 and Nuance 8.x data sheet at Bates No. PHO003007); *Id.* Ex. 6, p. 5 (citing NSRS version 7.x/8.x). The Nuance software allows the IVR system to recognize the specific words spoken by a caller. So, for example, instead of the system telling a caller to press 1 to get account information, the system can instruct the caller to say "account balance."

### **B.** The Nuance Speech Recognition System

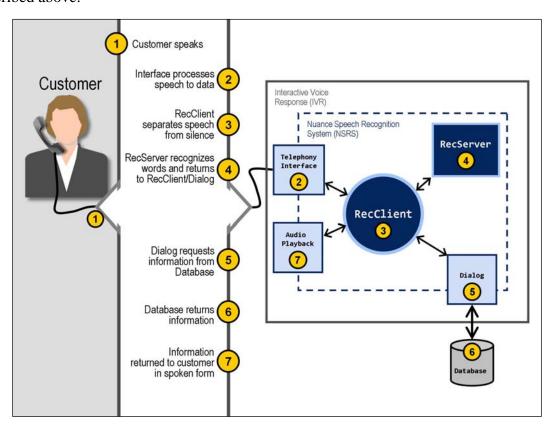
The NSRS is a speech recognition application that can help a user retrieve information or perform an action. Sharp Decl., Ex. A (Nuance Developer's Manual, Version 6 at WF00000634). When a customer calls (1), the voice signals are sent from the telephone lines through an interface (typically a telephony board)<sup>2</sup> that digitizes the speech (2). The interface passes the digitized speech signals to a recognition client. The recognition client, if the interface has not already done so, performs a function called endpointing, which specifies the start and end of a caller's speech, thus eliminating silence (3). *Id.* at WF00000717. The recognition client then formats and sends the caller's speech (and not the silence that has been culled out through endpointing) to the recognition server.

The recognition server performs the operations necessary to recognize the words in the caller's speech (4), and returns its best estimate as to the identity of the caller's words to the recognition client and to the dialog application. Using those recognized words, the dialog

<sup>&</sup>lt;sup>2</sup> Phoenix uses the phrase "speech board" to refer to the same hardware.

application determines the appropriate next step and, if called for by the caller's request, generates a database query to retrieve an answer to the caller's query (5). The database performs the requested search and returns the information that it locates to the recognition client (6). The recognition client then cooperates with a device set up to play the requested information to the caller (7).

The NSRS is depicted below with numbers corresponding to each of the functional steps described above:



This NSRS is now accused of infringement. But, as shown below, this NSRS is the same, in all relevant respects, to a NSRS that was on sale more than one year before the Asserted Patents were filed on November 12, 1999. In fact, by September 1996, a prior art NSRS had been implemented for Charles Schwab that offered the "first telephone service using speech recognition technology to provide stock, mutual fund and market indicator information to retail customers." Kent Decl., Ex. 9 (1996 article); *see also* Declaration of Douglas Sharp ("Sharp Decl."), ¶ 28. By May 1997, another prior art NSRS (version 6.0) was being offered for sale by Nuance, and, by April 1998, Nuance had implemented its NSRS version 6.0 into speech-enabled

1	IVR demonstrations for banking, travel, and stock quote applications. See Kent Decl., Ex. 10			
2	(Nuance6); see also Sharp Decl., ¶ 8. All of these systems could understand a spoken query and			
3	provided a response to a caller, including the ability to prompt a caller with suggestions for			
4	possible queries, confirm the caller's query, and then react in response to the caller's query.			
5	Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000738-739; WF00000742-743);			
6	Sharp Decl., ¶ 30.			
7	C. Phoenix's Asserted Patents and Infringement Contentions			
8	Phoenix asserts that the NSRS used by Wells Fargo infringes claims 11, 17, 20 and 21 of			
9	U.S. Patent No. 6,633,846 ("'846 patent"), claims 1, 3, 4, and 7 of U.S. Patent No. 6,665,640			
10	("'640 patent'), claims 1, 6, 7 and 10 of U.S. Patent No. 7,050,977 ("'977 patent) and claims 1,			
11	7-9, 12, 15, 19-23, and 27-29 of U.S. Patent No. 7,277,854 ("'854 patent") (collectively, the			
12	"Asserted Patents"). Each of these patents shares the same specification.			
13	1. '846 Patent			
14	The '846 patent is drawn to a distributed real-time speech recognition system. Claim 11			
15	(the sole asserted independent claim) requires a system with the following elements: <sup>4</sup>			
<ul><li>16</li><li>17</li></ul>	1. a <b>sound processing circuit</b> adapted to receive a speech utterance and to generate associated speech utterance signals therefrom;			
18 19	2. a <b>first signal processing circuit</b> adapted to generate a first set of speech data values from said speech utterance signals, said first set of speech data values being insufficient by themselves for permitting recognition of words articulated in said speech utterance;			
20 21	3. a <b>transmission circuit</b> for formatting and transmitting said first set of speech data values over a communications channel to a second signal processing circuit; wherein said first set of speech data values are sent in a streaming fashion over said channel before silence is detected and/or said speech utterance is completed; and			
<ul><li>22</li><li>23</li><li>24</li></ul>	4. said <b>second signal processing circuit</b> being configured to generate a second set of speech data values based on receiving and processing said speech data values during said speech utterance and before silence is detected, such that second set of speech data values contain sufficient information to be usable by a word recognition engine for recognizing			
<ul><li>24</li><li>25</li><li>26</li><li>27</li></ul>	words in said speech utterance; and  The Asserted Patents are attached to the Kent Declaration as Exhibits 1, 2, 3, and 4.  Attached to the Kent Declaration as Exhibits 5, 6, 7, and 8 are claim charts that compare the accused NSRS features against the prior art NSRS for all asserted claims and all elements of			
28	those claims, including preamble phrases which are not discussed herein.			

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5. further wherein at least some words are recognized in real-time and output as text before said speech utterance is completed.

Kent Decl., Ex. 1 ('846 patent, claim 11) (emphasis added).

Each of the features that Phoenix accuses is part of the NSRS. Phoenix contends that the "sound processing circuit" in the accused systems is a Nuance-compliant telephony board (2) "with a processing circuit which processes the user utterances received over a phone/network line" such as the Dialogic board. Kent Decl., Ex. 5, p. 2-3 (citing Nuance 8.x datasheet). The "first signal processing circuit" is alleged to be either the Nuance-compatible telephony board (2) that "look[s] for whether there is actually speech or not from the user" or the Nuance recognition client (3) "that can also implement some of these functions." *Id.*, Ex. 5, p. 3. The "transmission circuit" also is alleged to be located on either the Nuance-compatible telephone interface (2) or part of the recognition client (3) that "sends the first speech data values" to the Nuance "speech recognition server." *Id.*, Ex. 5, p. 4. The "second signal processing circuit" is alleged to be the "hardware and software" on the recognition server (4) that derives a "set of audio vectors" which "is needed by the speech recognizer to actually recognize words in the speech utterance." *Id.*, Ex. 5, p. 5. Finally, Phoenix alleges that the accused systems operate in real-time because the recognition server (4) can return "partial results" so that "words [are] being recognized before the utterance is completed." *Id.*, Ex. 5, p. 7.

#### 2. '640 Patent

The '640 patent is drawn to an interactive speech based learning system that formulates search queries based on natural language parsing of recognized user queries. Claim 1 (the sole asserted independent claim) requires a system with the following elements:

- 6. a **query file** for storing a plurality of topic query entries, each topic query entry including a query relating to one or more of the topics covered by the speech-based interactive learning system;
- 7. an **answer file** for storing a plurality of topic answer entries, each topic answer entry including an answer to one or more of said plurality of topic query entries, such that each topic query entry has at least one associated topic answer entry;
- 8. a **speech recognition system** for generating recognized speech utterance data from partially processed speech data associated with a speech-based query concerning one of

1	said topics, said partially processed speech data being received from a remote speech
	capturing system;
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- 9. said speech recognition system further cooperating with a **natural language engine**, which processes said recognized speech utterance data using a morphological analysis and a phrase analysis to form recognized speech sentence data corresponding to said speech-based query;
- 10. a **query formulation system** for converting said recognized speech sentence data into a search query suitable for identifying a topic query entry corresponding to said speech-based query, and for locating at least one topic answer entry best matching said speech-based query.

Kent Decl., Ex. 2 ('640 patent, claim 1) (emphasis added).

Each of the features that Phoenix accuses is found in the NSRS. Phoenix contends that the "query file" limitation is met because the accused systems, using the dialog application (5), cover topics such as "account histories" and "other topics are also identified at the main menu." Kent Decl., Ex. 6, p. 1. The "answer file" is alleged to be present because, using the dialog application and the associated database (6), the accused systems "know[] to give an appropriate answer when it figures out what the query/topic is all about" *Id.*, Ex. 6, p. 2. The "speech recognition system" is alleged to be the Nuance recognition server (4). This system can "generat[e] recognized speech utterance data from partially processed speech data . . . being received from a remote speech capturing system" because the speech data received from the "remote" Nuance-compatible telephony board (2) and/or the Nuance recognition client (3) "must be processed by the SR server" for correct recognition of words. *Id.*, Ex. 6, p. 3. The "natural language engine" element is alleged to be met because the recognition server (4) understands phrases such as "account balance" and can recognize different forms of the same word root such that "transferring" can be understood as "transfer." *Id.*, Ex. 6, p. 5. Finally, Phoenix contends that the "query formulation system" limitation is met because, using the dialog application (5),

As with claim 1 of the '854 patent discussed below, the "natural language engine [routine]" is also alleged to be present because the NSRS is capable of taking "a sentence (typically a recognized utterance) as input and returns an interpretation—a representation of the meaning of the sentence." *Id.*, Ex. 6, p. 5. To be clear, this function does not meet the claims' "natural language" limitations as properly construed. However, as with other potential claim construction disputes, this motion assumes that Phoenix is correct, and simply notes that this same functionality was available in the prior art NSRS. Sharp Decl, Ex. A (Nuance Developer's

Manual version 6 at WF00000678).

"the system retriev[es] answers (such as an account balance) in response to determining the caller's intent." *Id.*, Ex. 6, p. 7.

### 3. '977 Patent

The '977 patent is drawn to a speech-enabled server for Internet website. Claim 1 (the sole asserted independent claim) requires a system having the following elements:

- 1. a **receiving routine** executing on the server computing system for receiving speech data; said speech data being characterized by a data content that is substantially inadequate by itself for permitting recognition of words articulated in said speech query;
- 2. a **speech recognition routine** executing on the server computing system for completing recognition of said speech query using said speech data and said data content to generate a recognized speech query;
- 3. a **web page** having a list of items, at least some of said list of items being selectable by a user based on said recognized speech query;
- 4. wherein **signal processing functions** required to generate said recognized speech query **can be allocated between a client platform and the server computing system** as needed based on computing resources available to said client platform and server computing system respectively.

Kent Decl., Ex. 3 ('977 patent, claim 1) (emphasis added).

Each of the key features that Phoenix accuses is found in the NSRS and the Wells Fargo website. Phoenix contends that the "receiving routine" is located on the recognition server (4) "embodied in software (Nuance 7.x/8.x) which must operate on a computing system referred to as a speech server" that "has a routine which receives speech from a recognition client and/or speech board." Kent Decl., Ex. 7, p. 2. The "speech recognition routine" is alleged to be the Nuance recognition server (4) that "completes recognition of the speech query with an HMM using the speech data and the derived spectral features." *Id.*, Ex. 7, p. 4. The "web page" is alleged to be the Wells Fargo website, where a user can select items using a conventional keyboard/mouse through an internet browser. *Id.*, Ex. 7, p. 5. Finally, Phoenix contends that the accused systems include the capability to allocate signal processing functions "between a client platform and the server computing system" by referencing the ability to enable or disable the endpointing function on the recognition client (3) and the ability to control the "degree of

[PHO003007] and Nuance Application Guide [PHO003140-3150]).

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#### 4. '854 Patent

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The '854 patent is drawn to a speech recognition system interactive agent. Claim 1 (an exemplary asserted independent claim) covers the following method:

pruning" performed by the recognition server (4). 6 Id., Ex. 7, pp. 6-7 (citing Nuance Data Sheet

- providing a speech recognition engine adapted to recognize a first set of words and/or phrases from a user during an interactive speech session; wherein said first set of words and/or phrases can include a natural language query presented as continuous natural language spoken data;
- 2. providing a database of query/answer pairs concerning one or more topics which can be responded to by the natural language query system during said interactive speech based session with a user:
- 3. providing a natural language routine adapted to process said first set of words and/or phrases and identify a response to said natural language query based on said query/answer pairs; wherein said natural language routine is adapted to consider only a subset of said first set of words and/or phrases, and further can consider words and/or phrases in said natural language query which are not present in said query/answer pairs to determine said response;
- providing an interactive electronic agent coupled to said natural language routine and configured to: i. provide a prompt to the user during said interactive speech based session with suggestions on queries which can be made to the natural language query system; ii. provide a confirmation of a substance of said natural language query; iii. provide said response to the user from the natural language query routine.

Kent Decl. Ex. 4 ('854 Patent, claim 1).

Each of the key features that Phoenix accuses is found in the NSRS. The "speech recognition engine" is alleged to be the Nuance recognition server (4) that "recognizes the set of words/phrases spoken continuously by a customer . . . ." Kent Decl., Ex. 8, p. 1. The "database of query/answer pairs" is alleged to be present because "in response to the query for 'balance' the system gives an answer that indicates the customer's balance" using the dialog application (5). Id., Ex. 8, p. 2. The operation of the "natural language" routine is alleged to be shown by reference to the recognition server's (4) ability to consider only some words such as "account

<sup>&</sup>lt;sup>6</sup> The degree of pruning refers to the intensity of the recognition search. Adjusting the degree of pruning permits the developer to trade speed for accuracy, and vice versa, by varying the intensity of the search performed by the recognizer to find the spoken word. Essentially, the degree of pruning adjusts how many options the speech recognition engine examines to find its answer as to what word was spoken by a caller. See Sharp Decl., Ex. A (Nuance Developer's Manual version 6 at WF00000877); Sharp Decl., ¶ 19.

history" and to "consider" "ah, uhmm" and "give me my" and still determine the response to the
query. Id., Ex. 8, p. 3. Lastly, the "interactive electronic agent" is alleged to be the
computerized voice that responds to a caller with the specified prompts and responses using an
audio playback device (7). Id., Ex. 8, p. 4.

#### III. Argument

#### A. A defendant cannot be prevented from practicing what was within the prior art.

"[T]hat which would literally infringe if later in time anticipates if earlier." *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1305 (Fed. Cir. 2008) (citations and quotations omitted). In other words, the anticipation inquiry is exactly symmetrical to the infringement inquiry. Thus, "if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art." *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999).

To prove anticipation, a defendant need not present evidence that the accused systems would in fact infringe, or that the prior art would in fact anticipate, the claims as properly construed. Instead, as the Federal Circuit held in *Evans Cooling Sys., Inc. v. GMC*, a defendant may prove anticipation solely by reference to the plaintiff's allegations of infringement where, if taken as true, those allegations would prove anticipation. *See* 125 F.3d 1448, 1451 (Fed. Cir. 1997) ("[A]lthough GM bore the burden of proving that the LTl engine embodied the patented invention or rendered it obvious for purposes of the summary judgment motion, this burden is met by Evans' allegation, forming the sole basis for the complaint, that the LTl engine infringes."); *Vanmoor v. Wal-Mart Stores, Inc.*, 201 F.3d 1363, 1366 (Fed. Cir. 2000) (following *Evans Cooling*). Thus, summary judgment of anticipation is proper where there is no genuine

Even in the extreme case where assignor estoppel would otherwise preclude any validity defense, the Supreme Court has held that where an allegedly infringing product is within the prior art, an "assignor has a complete defense to an action for infringement." *Scott Paper Co. v. Marcalus Mfg. Co.*, 326 U.S. 249, 258 (1945). As the Supreme Court noted, "the application of the doctrine of estoppel so as to foreclose the assignor of a patent from asserting the right to make use of the prior art invention of an expired patent, which anticipates that of the assigned patent is inconsistent with the patent laws." *Id.* at 257-58.

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issue of fact that the patentee's infringement allegations, taken as correct, would exclude the public from practicing the prior art.

#### В. The elements of the Wells Fargo system that Phoenix accuses of infringement existed in the prior art.

Phoenix contends that Wells Fargo infringes the asserted claims by implementing the NSRS. See discussion supra section II.C. However, as shown below, the accused elements of the NSRS were found in a prior art NSRS that was on sale more than one year prior to the filing of the asserted patents.

#### 1. '846 Patent

"sound processing circuit" a.

Phoenix contends that this limitation is met by a Nuance-compatible telephony board (2) that is used in conjunction with the NSRS. Phoenix contends that the sound processing circuit "is a speech board with a processing circuit which processes the user utterances received over a phone/network line" and that the "Nuance 8.x datasheet specifically identifies many of these boards" including ones made by Dialogic. Kent Decl., Ex. 5, p. 3.

The prior art NSRS also was adapted for use in conjunction with a Dialogic telephony board (2) that had the ability to process sound received over a phone/network line. The prior art NSRS supported "several telephone interfaces, including Dialogic," which received voice signals coming from connected telephone/network lines, digitized those signals, and then passed along the live audio data to the recognition client. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000774, WF00000762); Sharp Decl., ¶ 13.

> b. "first signal processing circuit"

Phoenix accuses both the Nuance-compatible telephony board (2) and the Nuance recognition client (3) as meeting this limitation. Phoenix contends that the telephony board is the first signal processing circuit because it "look[s] for whether there is actually speech or not from the user." Alternatively, Phoenix contends that the Nuance recognition client "can also implement some of these functions," and thus also can be the first signal processing circuit. Kent Decl., Ex. 5, pp. 3-4.

The prior art NSRS also had a telephony board (2) and a recognition client (3), each of which was capable of "looking for whether there is actually speech or not from the user." In particular, the prior art NSRS was designed to operate with the Dialogic Antares card which was capable of performing endpointing to determine the beginning and end of the talker's speech. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000903). Likewise, the RecClient was capable of performing "[e]nergy-based endpointing to determine the beginning and end of the talker's speech." *Id.*, Ex. A (Nuance Developer's Manual at WF00000716-717); Sharp Decl., ¶ 9.

#### c. "transmission circuit"

Phoenix accuses a portion of the NSRS located on either the Nuance-compatible telephony board (2) or the Nuance recognition client (3). Phoenix contends that the transmission circuit is "located on the speech board or part of a recognition client" and "sends the first speech data values" to recognition server (4). Kent Decl. Ex. 5, pp. 4-5.

The prior art NSRS also included a recognition client (3) that transmitted processed speech values to the speech recognition server (4). In the prior art NSRS, the resulting "speech values are then sent over a network connection to the RecServer which handles the speech recognition and understanding." Kent Decl., Ex. 10 (Nuance6, WF00000595). Indeed, "[s]amples begin flowing to the recserver as soon as the onset of speech is detected, and the flow continues until the end of speech is found. In this way, the recserver can actually begin to process the utterance while the person is still speaking." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000968); Sharp Decl., ¶ 14.

### d. "second signal processing circuit"

Phoenix contends that the second signal processing circuit is found in the speech recognition server (4) which "includes hardware and software" that derives a "set of audio vectors" that "is needed by the speech recognizer to actually recognize words in the speech utterance." Kent Decl. Ex. 5, p. 5.

The prior art NSRS also included such a speech recognition server (4). That recognition server derived the "set of audio vectors" because it used "HMMs at the core of its recognition

engine" which "function primarily as acoustic models that provide a mapping from the sampled
speech signal to a sequence of phonetic units." Sharp Decl., Ex. A (Nuance Developer's Manual
at WF00000964) (emphasis in original). To recognize speech, the recognizer server attempts to
find the best match between "audio vectors" representing the sampled speech signal and a
sequence of phonetic units representing words that the system can recognize. <i>Id.</i> , Ex. A (Nuance
Developer's Manual at WF00000988) ("The Nuance Speech Recognition System represents each
word in the recognition vocabulary as a sequence of phonetic symbols."); id. at WF00000654
("To recognize speech, the Nuance System compares it with a graph of acoustic speech
models."); $id$ . at WF00000967 (describing the acoustic speech models); Sharp Decl., ¶ 17.
e. "recognized in real-time and output as text before said speech utterance is completed"
Phoenix contends that this limitation is "met for those systems in which WF configures
the IVR to operate using partial results which is also characterized by the words being
recognized before the utterance is completed." Kent Decl. Ex. 5, p. 7. The prior art NSRS also

Phoenix contends that this limitation is "met for those systems in which WF configures the IVR to operate using partial results . . . which is also characterized by the words being recognized before the utterance is completed." Kent Decl. Ex. 5, p. 7. The prior art NSRS also included the ability to return partial results. The Developer's Manual specifies that the one should "[s]et this Boolean parameter to TRUE if you want the recognition engine to generate partial (intermediate) recognition results periodically. Each result will generate a NUANCE-EVENT-PARTIAL-RESULT." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000878). In the prior art NSRS, this function would permit, for example, the recognizer to provide feedback in real time so that the system could stop playback of a prompt. Sharp Decl., ¶ 18.

### f. dependent claims

Phoenix also contends that the accused systems infringe dependent claims 17, 20, and 21.

### i. Claim 17

Claim 17 requires that the "signal processing functions required to generate said first and second set of speech data values can be allocated between said first signal processing circuit and second signal processing circuit as needed based on computing resources available to said first and second signal processing circuits respectively." Phoenix contends that limitation is met

because "the degree of pruning" by the recognition server (4) "can be controlled." Kent Decl. Ex. 5, p. 8. The prior art NSRS also permitted control over the degree of pruning by the recognition server (4). *See* Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000657) (describing rec.Pruning parameter); Sharp Decl., ¶ 19.

#### ii. Claim 20

Claim 20 requires the first signal processing circuit also to be "configured to assist said second signal processing circuit with signal processing computations required to generate said second set of speech data values." Phoenix contends that limitation is met because the telephony board (2) and/or the recognition client (3) "can perform an endpointing function on the speech data from the user utterance." Kent Decl. Ex. 5, p. 10. The recognition client (3) in the prior art NSRS also was capable of performing the endpointing function. *See* Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000717) (describing "[e]nergy-based endpointing to determine the beginning and end of the talker's speech"); Sharp Decl., ¶ 9.

### iii. Claim 21

Claim 20 requires the first set of speech data values to "represent the least amount of data that can used by said second signal processing circuit to generate said second set of data values usable for a word recognition process." Phoenix contends that limitation is met because the telephony board (2) and/or the recognition client (3) "transmit only actual speech data from the user utterance to the SR server." Kent Decl. Ex. 5, p. 10. In other words, Phoenix again accuses the endpointing functionality. The recognition client (3) in the prior art NSRS also was capable of performing endpointing and transmitting only actual speech data (and not silence). Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000968-969) (describing effect of endpointing); Sharp Decl., ¶ 10.

#### 2. '640 Patent

#### a. "query file"

Phoenix contends that the "query file" limitation is met because the accused systems can cover multiple topics. For example, the main menu identifies topics such as "account histories" and "other topics are also identified at the main menu." Kent Decl., Ex. 6, p. 1. The prior art

1	NSRS also covered multiple topics – having been demonstrated in an banking application that
2	covered topics such as "account balance" as well as other topics such as "transfer money" and
3	"pay bills." Kent Decl., Ex. 10 (Nuance6 at WF00000599-600) (describing Banking
4	Demonstration). Moreover, the prior art NSRS Developer's Manual also provides a "a sample
5	banking application built with the Dialog Builder" that "lets you check your balance, transfer
6	money, pay bills, and add new payees." Sharp Decl., Ex. A (Nuance Developer's Manual at
7	WF00000956); Sharp Decl., ¶ 27.
8	b. "answer file"
9	Phoenix contends that Wells Fargo's NSRS meets the "answer file" limitation because
10	the system "knows to give an appropriate answer when it figures out what the query/topic is all
11	about." Kent Decl., Ex. 6, p. 2. The prior art NSRS had the same ability to give an appropriate
12	answer to callers' queries. This is shown on page 100 of the prior art NSRS Developer's
13	Manual, where a sample banking dialogue is detailed. Sharp Decl., Ex. A (Nuance Developer's
14	Manual at WF00000739). This capability was also demonstrated in a banking implementation,
15	as shown in the following review:
16	The few tests we tried here gave us favorable responses. When asked how much we wanted to transfer from checking into savings, we responded, "Fifty-seven
17 18	dollars and thirty-two cents." Later, in response to the same question, we said, "Fifty-seven thirty-two." In both cases, the demo transferred the correct amount.
19	Kent Decl., Ex. 11 (Oct. 1998 Review); Sharp Decl., ¶ 27.
20	c. "speech recognition system for generating recognized speech utterance
21	data from partially processed speech data being received from a remote speech capturing system"
22	Phoenix contends that the "speech recognition system" is the Nuance recognition server
23	(4) that receives speech data from the Nuance-compatible telephony board (2) and/or Nuance
24	recognition client (3) that "must be processed by the SR server" for correct recognition of words
25	Id., Ex. 6, p. 3. Phoenix further contends that the recognition client and/or telephony board "are
26	located in another computer separate (remote) from the speech recognition system" and thus are
27	the "remote speech capturing system." <i>Id.</i> , Ex. 6, p. 3.
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Phoenix contends that the Wells Fargo NSRS meets this limitation because it has the ability to understand phrases and different forms of a given word. Phoenix contends that the recognition server (4) can understand phrases such as "account balance" and different forms of the same word root such as "transferring" and "transfer." Kent Decl. Ex. 6, p. 5. The recognition server (4) in the prior art NSRS had that same capability. As the prior art NSRS Developer's Manual explained, the prior art NSRS can understand phrases such as "transfer five hundred dollars from savings to checking." *Id.* The prior art NSRS can also understand different forms of a word, such as "[g]ive me" and "gimme". Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000661-662; Sharp Decl., ¶ 20.

e. "query formulation system"

Phoenix contends that Wells Fargo's NSRS meets this limitation because it has the ability to retrieve answers in response to a caller's question. Phoenix contends that the "query formulation system" limitation is met because "the system retriev[es] answers (such as an account balance) in response to determining the caller's intent." Kent Decl. Ex. 6, p. 7. Again, the prior art NSRS worked the same way. For example, Nuance implemented a stock quote

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demonstration that "show[ed] Nuance's ability to provide highly accurate quotes on over 13,000
stocks, mutual funds, and market indicators." Kent Decl., Ex. 10 (Nuance6 at WF00000603).
"To reach the demo," a caller could simply call 650-847-7423, and the system was able to
respond to the caller who simply said "the name of the company, fund, or market indicator." Id.;
see also id., Ex. 11 (October 1998 review of CTI Magazine); Sharp Decl., ¶ 26.

#### f. dependent claims

Phoenix also contends that the accused systems infringe dependent claims 3, 4 and 7.

#### i. Claim 3

Claim 3 requires that the "speech recognition system is comprised of a first portion at a client based computing system for performing first signal processing operations on a speech input signal to create said partially processed speech data, and a second portion at a server based computing system for performing a second signal processing operation for completing processing of said partially processed speech data." Phoenix contends that the "first portion component" is the telephony board (2) and/or the recognition client (3) "which create the partially processed speech data", and that "the second portion component of the SR system" includes the recognition server (4) "which performs additional operations to complete the processing of the speech data." Kent Decl. Ex. 6, p. 8. As discussed above, the prior art NSRS also included a speech recognition client (3) to create the partially processed speech data and a recognition server (4) to perform additional operations to complete the processing of the speech data. See discussion supra III.B.2(c); Sharp Decl., ¶¶ 9, 17.

#### ii. Claim 4

Claim 4 requires that the "query formulation system uses context parameters for recognizing said speech-based query." Phoenix contends that this limitation is met because "the user's context is used to assist the speech recognition process by helping to recognize what the user said" and explains that caller's context can refer simply to "where he/she is in the dialog." Kent Decl. Ex. 6, p. 10. The prior art NSRS also included the ability to consider such "context parameters" in that the NSRS allowed where a caller was in the dialogue to play a role in recognizing the caller's speech—*e.g.*, the recognition server knew if the caller had just told the

system that she wanted to transfer money and thus interpreted the caller's next speech in light of that knowledge. This is accomplished using the function "AppSetGrammar." *See* Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000751). Further, the NSRS would use "contextualization" so that, for example, when a user said "transfer today," the recognition server would understand that the word "today" referred to a particular date based on the context of the utterance. *Id.* at WF00000758 ("Contextualization refers to the process of updating something to reflect the context of utterance. The function ContextualizeDate () updates a date value to reflect the time at which it was uttered."); Sharp Decl., ¶ 24.

#### iii. Claim 7

Claim 7 requires that "context parameters are used for dynamically determining and loading an appropriate grammar and dictionary file to be used for said speech-based query." Phoenix contends that this limitation is met because "[t]he context parameters are used to determine whether a customer is asking about a credit card or a bank account. Depending on the context, the IVR system identifies the appropriate grammar and dictionary file to be used in understanding the query." Kent Decl. Ex. 6, p. 11. The prior art NSRS also was capable of identifying the appropriate grammar and dictionary file depending, for example, on the customer's identity. As the Nuance Developer's Manual version 6 explains, the NSRS "allow[ed] the dynamic creation and modification of recognition grammars from within a running application" and thus "enable[d] many new types of speech recognition applications, such as: [a] speed dialer, in which . . . the user's own grammar of names (such as "mom", "the office", and "robert jones") is dynamically loaded when that user calls." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000918). This means that, for a particular application and customer, the NSRS was capable of determining the appropriate grammar to use in interpreting their speech—e.g., the phrase "Robert Jones" was recognized for customer A but not for customer B. Further, NSRS version 6 included the ability to dynamically load a particular dictionary (or a set of word pronunciations) to be used in understanding a caller's query

8 The term "grammar" refers to strings of words that the system can recognize, and the term "dictionary" refers to a set of word pronunciations.

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depending on context using the '	"WGISetPronunciation"	function.	Id., at	WF00000928;	Sharp
Decl., ¶ 24.					

#### 3. '977 Patent

#### a. "receiving routine"

Phoenix accuses a routine operating on the NSRS recognition server (4) that receives speech from a recognition client (3) and/or telephony board (2). Phoenix contends that the "receiving routine" is located on the speech engine "embodied in software (Nuance 7.x/8.x) which must operate on a computing system referred to as a speech server" that "has a routine which receives speech data from a recognition client and/or speech board." Kent Decl., Ex. 7, p. 2.

The prior art NSRS also included a routine that operated on the recognition server (4) to receive the speech passed from the recognition client (3). In the prior art NSRS, "speech values" output by the recognition client "are then sent over a network connection to the RecServer which handles the speech recognition and understanding." Kent Decl., Ex. 10 (Nuance6 at WF00000595). "Consistent with the Nuance architecture, echo-canceled, endpointed audio data are recognized by the Nuance Recognition Server, running on the same host or another host." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000903). Therefore, the Nuance Recognition Server contained a routine that received the processed speech values that were sent over the network connection to the recognition server. *Id.*; Sharp Decl., ¶ 16.

#### b. "speech recognition routine"

Phoenix contends that the Wells Fargo NSRS meets this limitation because it has a "speech recognition routine" running on the NSRS speech recognition server (4). Phoenix contends that "speech recognition routine" is the Nuance "speech recognition (SR) engine" which "completes recognition of the speech query with an HMM using the speech data and the derived spectral features." Kent Decl., Ex. 7, p. 4.

The prior art NSRS had a speech recognition server (4) that worked in the same way.

The "Nuance System uses state-of-the-art HMMs at the core of its recognition engine" that

"function primarily as acoustic models that provide a mapping from the sampled speech signal to

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a sequence of phonetic units." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000964). "To recognize speech, the Nuance System compares it with a graph of acoustic speech models. In a process called the recognition search, the recognition engine searches this graph of possibilities for the sequence of models that best correspond to the speech. These models are found and interpreted as strings of words, and returned as the recognition result." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000654); Sharp Decl., ¶ 19.

> "web page" c.

Phoenix contends that the "web page" limitation is met by the www.wellsfargo.com website because a caller can make transactions on that website using a conventional keyboard/mouse that it also can make using the accused speech-enabled IVR. Kent Decl. Ex. 7, p. 5. The prior art NSRS also worked in conjunction with a web page that had items selectable by a desktop browser. In particular, a prior art NSRS had been implemented for Charles Schwab called the "VoiceBroker" application, which was announced as the "first telephone service using speech recognition technology to provide stock, mutual fund and market indicator information to retail customers." Kent Decl., Ex. 9 (1996 article); see also Sharp Decl., ¶ 28. Schwab also offered the same information on its website using a conventional keyboard/mouse through a browser. Kent Decl., Ex. 19 (Schwab Website).

> "signal processing functions . . . can be allocated between client platform d. and the server computing system"

Phoenix contends that this limitation is met because "the amount of processing used by either of the [telephony board (2) and/or recognition client (3) and the recognition server (4)] can be allocated depending on resources available to each." Phoenix specifically references the ability selectively to enable the endpointing function and ability to control the "degree of pruning" performed by the recognition server in the NSRS. Kent Decl., Ex. 7, pp. 6-7.

The prior art NSRS also included the ability to selectively enable the endpointing function on the recognition client (3) and to control the degree of pruning done by the recognition server (4). A developer could have disabled endpointing and simply specified the start and end time of the utterance to be recognized: "The RecClient API also allows the

developer to specify the start and end of the utterance to be recognized, bypassing the spectral
energy endpointing used by RCRecognize ( ) ." Sharp Decl., Ex. A (Nuance Developer's
Manual at WF00000770). Alternatively, a designer was able to adjust a set of parameters to
control the behavior of the endpointer. <i>Id.</i> at WF00000969. Likewise, the prior art NSRS
permitted a developer to configure the degree of pruning: "The recognition system can be
configured to perform less search" <i>Id.</i> at WF00000654-655. Indeed, that system included a
parameter called "rec.Pruning" that controlled "the trade-off between speed and accuracy by
constraining the search space. By limiting the number of different search possibilities carried
along, recognition speed can be increased." <i>Id.</i> at WF00000657; Sharp Decl., ¶ 19; <i>see also</i>
discussion supra section II.B (briefly explaining endpointing and pruning).
f. dependent claims
Phoenix also contends that the accused systems infringe dependent claims 6, 7, and 10

#### i. Claim 6

Claim 6 requires the website to be "further adapted to respond to a speech query concerning said list of items by returning a text or speech articulated response." Phoenix contends that this limitation is met because "WF's IVR returns speech articulated responses." Kent Decl. Ex. 7, p. 9. Implementations of the prior art NSRS also returned speech articulated responses. See, e.g., Kent Decl. Ex. 9 (1996 VoiceBroker Press Release at WF00000593-594); *Id.*, Ex. 10 (Nuance6 at WF00000597-604); Sharp Decl., ¶ 29.

#### ii. Claim 7

Claim 7 requires the website to be "further adapted to interact on a real-time basis in response to one or more continuous speech queries." Phoenix contends that this limitation is met because "the WF IVR responds in real-time to one or more continuous speech queries." Kent Decl. Ex. 7, p. 10. The prior art NSRS also operated in real-time. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000968); Sharp Decl., ¶ 15.

#### iii. Claim 10

Claim 10 requires the website to "control[] an interactive character agent presented to the user for assisting in handling said speech query." Phoenix contends that this limitation is met

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because "WF's interactive agent is monitored and observed in the test protocols and audio
scripts." Kent Decl. Ex. 7, p. 10. The prior art NSRS also included the capability to monitor the
system performance, including the audio scripts. Sharp Decl., Ex. A (Nuance Developer's
Manual at WF00000663) ("One way to check the speech signal is to use Xwavedit to examine
recordings made by your application. You should listen and look for endpointing errors, signal
distortions (e.g., clipping), very low amplitude signals, and recordings that just sound bad.");
Sharp Decl., ¶ 32.
4. '854 Patent
a. "speech recognition engine"
Phoenix contends that the "speech recognition engine" is the Nuance recognition server
(4) that "recognizes the set of words/phrases spoken continuously by a customer " Kent

(4) that "recognizes the set of words/phrases spoken continuously by a customer . . . ." Kent Decl., Ex. 8, p. 1. The prior art NSRS also included a Nuance recognition server (4) with the ability to recognize a set of continuous spoken words without requiring an artificial pause between each word. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000634); Kent Decl. Ex. 16 (Nuance6 Data Sheet at WF00000617) ("Utilizing advanced linguistic and statistical models to interpret and understand natural human speech, Nuance 6 enables sophisticated speech recognition applications . . . ."); Sharp Decl., ¶ 8.

b. "database of query/answer pairs"

Phoenix contends that the "database of query/answer pairs" is present because "in response to the query for 'balance' the system gives an answer that indicates the customer's balance." Kent Decl., Ex. 8, p. 2. The prior art NSRS was demonstrated in a banking implementation where a caller could request his account balance. The system would respond with the customer's account balance. Kent Decl., Ex. 10 (Nuance6 at WF00000599-600); Sharp Decl., ¶ 27. The same was true of the stock quote demonstration. Kent Decl., Ex. 10 (Nuance6 at WF00000603); Sharp Decl., ¶ 26.

c. natural language routine"

Phoenix contends that the "natural language routine" is met by the recognition server's (4) ability to consider only some words such as "account history" and to determine the response

to the query even in the presence of dysfluencies such as "ah, uhmm" or extra words such as "give me my." Kent Decl., Ex. 8, p. 3. The prior art NSRS also had the ability to understand phrases and to recognize speech despite the presence of dysfluencies or extra words. The prior art NSRS was able to understand phrases such as "transfer five hundred dollars from savings to checking." Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000678). The prior art NSRS also was able to determine the response to the query even in the presence of dysfluencies or extra words. *Id.* at WF00000661-662; Sharp Decl., ¶ 20. Indeed, extraneous words that were not found in the grammar simply were not recognized. *Id*.

#### d. "interactive electronic agent"

Phoenix contends that the "interactive electronic agent" is the computerized voice that responds to a caller. Phoenix contends that the "electronic agent is presented to customers in the form of an artificial persona that articulates answers in audible form" including providing "specific suggestions to callers on what types of queries can be made," confirming "the query made by the caller" and then providing the proper response. Kent Decl. Ex. 8, p. 4.

Implementations of the prior art NSRS also included a computerized voice that responded to the caller. For example, in the prior art NSRS demonstrations, an agent articulated answers (i.e., the response to the caller) in audible form. See, e.g., Kent Decl., Ex. 10 (Nuance6 at WF00000597-604). That audible speech was capable of providing a prompt regarding possible queries, confirming the substance of the query, and providing an answer. See Sharp Decl., ¶ 30. For example, the following sample dialogue suggested a query for the caller, confirmed the amount specified by the caller, and then would have taken the requested action:

For example, a banking application might have a state in which the application asks the user "How much do you want to transfer?" and the user responds with a dollar amount that the system would recognize. After a successful interchange, an application typically moves into a new dialog state-for example, the banking application might move into a confirmation state after the transfer amount state.

Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000738].	This example is depicted
helow:	

"You want to transfer five hundred dollars from checking to savings. Is that correct?"

"Yes"

Make transfer Return to Main Menu

*Id.* at WF00000739; Sharp Decl., ¶ 30.

#### e. other independent claims

Phoenix contends that the accused systems infringe independent claims 15 and 27. However, Phoenix's allegations regarding those independent claim elements mirror its allegations regarding independent claim 1 discussed above. The claim charts attached to the Kent Declaration map each of the elements of claims 15 and 27 to the corresponding element in claim 1.

### f. dependent claims

Phoenix also contends that the accused systems infringe claims 7, 8, 9, and 13 that depend on independent claim 1, claims 19, 20, 22, and 23 that depend on independent claim 15 and claims 28 and 29 that depend on independent claim 27.

#### i. <u>Claims 7, 19, 28</u>

Claim 7 requires the further step of "configuring perception related parameters of the electronic interactive agent based on preferences of said user, including one of a gender, a visual appearance, and/or voice characteristics including one of pitch, volume and/or speed." This requirement is essentially mirrored in claims 19 and 28. Phoenix contends that these limitations are met because "WF's electronic agents are configured with parameters (such as the choice of a female gender for the voice) based on the WF's understanding of the preferences of its customers." Kent Decl. Ex. 8, pp. 6, 15, 21. The prior art NSRS also permitted the recording of prompts that were based on the designer's understanding of its customers' preference including

one of gender—*e.g.*, a developer could have recorded a female voice for the prompt, if that developer believed that was his or her customer's preference. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000958) (describing audio editing function); Sharp Decl., ¶ 31.

#### ii. Claims 8, 22

Claim 8 and 22 require that the "subset of words and/or phrases in said natural language query can be assigned different weightings determined by said natural language routine."

Phoenix contends that this limitation is met because the accused systems "assign[] different weights to certain words as it favors some words and ignores others completely." Kent Decl., Ex. 8, p. 7. The prior art NSRS also was capable of favoring some words, for example, by including the words in the grammar (which permitted them to be recognized). *See* Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000654-655); *see also id.* at WF00000678 (assigning different weights to certain words by recognizing them as corresponding to predefined slots such as "command-type, amount, source-account, and destination account"); Sharp Decl., ¶¶ 21, 22.

#### iii. <u>Claims 9, 23</u>

Claims 9 and 23 require the speech recognition engine to be "distributed between a client device and a server system which receives streaming speech data having reduced latency data content before silence is detected and the utterance is complete." Phoenix contends that this limitation is met because, in the accused systems, "the speech recognition functions are distributed between a client device and a server device"—*i.e.*, that the recognition client (3) performed endpointing and the recognition server (4) completed speech recognition. Kent Decl., Ex. 8, p. 8. As explained above in II.B.1(b) & (d), the prior art NSRS also distributed the "speech recognition functions" identified by Phoenix between a client and server device because the recognition client (3) was capable of performing endpointing and the recognition server (4) was capable of completing speech recognition.

#### iv. Claim 13

Claim 13 requires the interactive electronic agent to provide "responses adjusted for a context experienced by the user." Phoenix contends that this limitation is met because, in the

accused systems, the response given to a user "depends on where the user is in the dialog state." Kent Decl., Ex. 8, p. 11. The prior art NSRS also was able to adjust responses depending on where the user is in the dialog state. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000751) (disclosing "AppSetGrammar" function); *Id.* at WF00000758 (describing contextualization to "reflect the context of utterance"); Sharp Decl., ¶ 24.

#### v. Claim 20

Claim 20 requires that "at least one of said prompt, confirmation or response is processed by a text to speech engine and rendered into audible form for the user by the interactive electronic agent." Phoenix contends that "WF uses a conventional text to speech engine to render the response into audible form for the user." Kent Decl., Ex. 8, p. 15. The prior art NSRS also was capable of being operated with a conventional text to speech engine: Entropic's TrueTalk text-to-speech system. Sharp Decl., Ex. A (Nuance Developer's Manual at WF00000760); Sharp Decl., ¶ 29.

#### vi. Claim 29

Claim 29 requires that an "agent can conduct a second interactive speech based session with said user directed to continue with additional queries and answers concerning said first topic." Phoenix contends that this limitation is met because, in the accused systems, "[t]he user can conduct a second session to get additional answers on the same topic (for example, account history) by calling the IVR again." Kent Decl., Ex. 8, pp. 21-22. The prior art NSRS permitted a user to conduct a second session to get additional answers on the same topic (for example, account history) by calling the system again. *See* Kent Decl., Ex. 10 (Nuance6 at WF00000597-604); Sharp Decl., ¶ 27.

#### IV. Conclusion

In sum, each component of the accused systems necessary to Phoenix's infringement contentions also was present in the prior art NSRS. Taking Phoenix's contentions to be true—as this motion does—the prior art NSRS therefore contained each and every limitation of the asserted claims. For the foregoing reasons, Wells Fargo respectfully requests that the Court grant summary judgment of invalidity as to the asserted claims.